

REMARKS

Claims 1-18 are currently pending in this application.

Claim Rejections Under 35 U.S.C. §103

Claims 1-8, 11-15 and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kawata (U.S. Patent No. 5,274,777) in view of Phillips (U.S. Patent No. 5,867,601).

Kawata discloses a digital data processor executing a conditional instruction in a single machine cycle. It includes means for reading a piece of data from each of two general registers specified by an instruction; means for storing a piece of data, larger or smaller, selected from the two pieces of data to one general register specified by an instruction; and means for controlling an operation so that an instruction involving the reading of data by the reading means and the selective storage of data by the storage means is executed within the single machine cycle (Summary of Invention, column 3, lines 17-26). A six step multiple instruction sorting process for sorting two pieces of data by magnitude of the data is described (column 1, lines 30-68). Also, a four step multiple cycle instructions sorting sub-instruction pipeline processing operation is described (column 4, line 14-column 5, line 58). The pipeline process is stated to sort two pieces of data previously performed by four instructions, to be completed in two sorting sub-instructions, for high speed operation.

Phillips discloses a processor for converting a video signal from frequency domain signals into spatial domain signals. Transposed values are separated into odd and even processing paths, and converted in parallel, to produce fixed values by performing a one-dimensional transform.

In contrast to Kawata and Phillips, in the claimed invention sort processing of a piece of input data is performed only once, and is not performed in "pipeline" processing. Each basic cell

(e.g. 10-(0) to 10-(27) in Fig. 1) is used only once for sorting input data, and there is no disclosure of serially input data.

In the claimed invention, the number of basic processes comparing magnitudes of data is equal to the number of combinations of input data compared, whereas in contrast in Kawata, the number of instructions is equal to the number of sorted pieces of data (col. 5, lines 54-58). Further, in the claimed invention, the total number of basic cells in the first stage of the basic block is greater than the number of basic cells in the second stage of the basic block, and the total number of basic processes is equal to the number of combinations of pieces of input data to be compared, whereas in contrast in Kawata, in the reading cycle, a sub-instruction is read to the instruction register, which, based on an assumption that the selection criteria is that the larger data must be selected, data which is larger will be selected (col. 4, lines 23-27). Also, the disclosure in Kawata of non-pipeline processing is directed to a different process (instruction fetching, decoding, reading and writing) than in the claimed invention herein.

Further, in contrast to Kawata and Phillips, the claimed invention includes basic blocks, each of which includes a first stage including basic cells and a second stage including basic cells, or two-stage parallel basic cells, wherein the number of basic cells in the first stage of the basic block is greater than the number of basic cells in the second stage of the basic block, or larger by one. Also, in contrast to Kawata and Phillips, the claimed invention includes a total number of basic cells which is equal to the number of combinations of pieces of input data to be compared, not the sorting of two pieces of data by two sorting sub-instructions as in Kawata.

Claims 9-10 and 16-17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kawata in view of Phillips and Lewis et al. (U.S. Patent No. 6,775,667). Since these claims

depend directly or indirectly from independent claims , it is submitted that they are patentable in view of the patentability of the independent claims as set forth above.

Dependent Claims

In view of the patentability of the underlying amended independent claims over the cited references as set forth above, it is submitted that the amended claims depending therefrom are likewise patentable.

CONCLUSION

In light of the above amendments and remarks, applicant submits that the application is in condition for allowance, and requests that it be passed to issue. If there are any issues which can be discussed in a telephone interview, the Examiner is requested to contact applicant's attorney at (310) 242-2732.

The Commissioner is authorized to charge any required fee relating to this response to our Deposit Account No. 06-2425.

Respectfully submitted,

FULWIDER PATTON LLP

By: Howard N. Sommers
Howard N. Sommers
Registration No. 24,318

Howard Hughes Center
6060 Center Drive, Tenth Floor
Los Angeles, CA 90045
Telephone: (310) 824-5555
Facsimile: (310) 824-9696
Customer No. 24201
152899.1